



Pensacola Beach, Florida, sunshine, lashing ocean waters, luxury hotels draw tourists year-round. Many resorts are found along the state's warm, sandy beaches.

islands called barrier islands. Many barrier islands stretch along the Atlantic and Gulf coasts of the United States. These narrow islands form barriers between the ocean and lagoons or sounds, thus protecting the mainland from the battering of ocean waves.

### Beach Composition

Beaches vary according to the kinds of material that cover them. Many people think of sandy beaches as having light-colored sand, such as those along the coasts of North America. Yet in different parts of the world there are sandy beaches of many colors, from pure white to jet black.

White sand is formed by waves breaking up coral, a material produced by small sea animals called corals. Black sand, found on a few beaches in Hawaii and on other Pacific islands, results from the action of waves pulverizing dark, hardened lava called basalt. There is also pink sand, created by the surf breaking up shell and coral fragments, and green sand, formed by the weathering of a grayish-green basalt that contains the greenish mineral olivine.










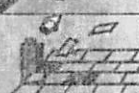



Some beaches are not sandy at all. They are covered with flat pebbles called shingles or rounded rocks known as cobbles. Such beaches are common along coasts of the British Isles.

**SEE ALSO** COAST, DUNE, ISLAND, OCEAN, WAVES, and WEATHERING AND EROSION.

## BEAUFORT SCALE

The Beaufort scale is a wind scale on which the force of the wind is indicated by a series of numbers from 0 to 12. Brief descriptions accompany each number. The scale is named for Sir Francis Beaufort of the British Royal Navy. In 1805, he devised a method of describing wind force according to procedures for setting sails on a warship. An illustrated version of the scale is shown below.

**SEE ALSO** WEATHER and WIND.

BEAUFORT SCALE			
BEAUFORT NUMBER	EFFECTS ON LAND	WIND SPEED	EFFECTS DESCRIBED
0		CALM less than 1 kph 1 mph	Smoke rises vertically.
1		LIGHT AIR 1-5 kph 1-3 mph	Smoke drift shows wind direction.
2		LIGHT BREEZE 6-11 kph 4-7 mph	Wind can be felt on face; ordinary wind vane moves.
3		GENTLE BREEZE 12-19 kph 8-12 mph	Light flag is extended; wind moves leaves and twigs.
4		MODERATE BREEZE 20-28 kph 13-18 mph	Paper and leaves are lifted; small branches move.
5		FRESH BREEZE 29-38 kph 19-24 mph	Small trees sway; crests form on small waves on lakes.
6		STRONG BREEZE 39-49 kph 25-31 mph	Umbrellas are hard to use; large branches move.
7		MODERATE GALE 50-61 kph 32-38 mph	Trees sway; walking in the wind is difficult.
8		FRESH GALE 62-74 kph 39-46 mph	Twigs break off of trees.
9		STRONG GALE 75-88 kph 47-54 mph	Wind damages buildings; roof tiles blow off.
10		WHOLE GALE 89-102 kph 55-63 mph	Wind uproots trees; causes more building damage.
11		STORM 103-118 kph 64-73 mph	Wind causes widespread damage; very rare.
12		HURRICANE 119-220 kph 74-136 mph	Devastation occurs.